

Amendment and Response
Applicant: Krasulick, et al.
Serial No.: 10/005,065
Page 4 of 18

substantially zero or a reverse bias voltage is applied across the semiconductor layer at operating temperatures of the electro-absorption modulator that are substantially greater than 25 degrees Celsius.

Amendment to the Abstract:

Please amend the abstract as follows:

An electro-absorption modulator and electro-absorption modulated laser are described that include a semiconductor layer having an electrically controllable absorption. The material composition of the semiconductor layer is chosen so that the semiconductor layer is substantially transparent to light propagating through the semiconductor layer when a substantially zero or a reverse bias voltage is applied across the semiconductor layer at operating temperatures of the electro-absorption modulator that are substantially greater than 25 degrees Celsius.

Amendments to the Claims:

Please amend claims 1, 4-9, 11, 13-14, 23-24, and 28-32 and add new claim 33 as follows.

- 1 (Amended) An electro-absorption modulator comprising a semiconductor layer having an electrically controllable absorption, a material composition of the semiconductor layer being chosen so that a transmission response of the modulator as a function of applied voltage shifts with an increasing operating temperature of the modulator so that the semiconductor layer is substantially transparent to light propagating through the semiconductor layer when a substantially zero or a reverse bias voltage is applied across the semiconductor layer at operating temperatures of the electro-absorption modulator that are substantially greater than 25 degrees Celsius.
- 2 (Original) The electro-absorption modulator of claim 1 wherein the semiconductor layer comprises a multi-quantum well layer
- 3 (Original) The electro-absorption modulator of claim 1 wherein the semiconductor layer comprises a bulk semiconductor layer.